



Long Jump Games to Improve Motor Skills in First-Grade Students

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Abstract

Objectives:

This study aims to determine the effect of long jump game activities on students' motor skills.

Materials and Methods:

The study employed a quantitative approach using a quasi experimental design, specifically a one group pretest posttest design. The sample consisted of 25 students.

Results:

Descriptive analysis results showed an increase in the mean jumping ability score from 110.53 in the pretest to 113.72 in the posttest, representing an increase of 3.20 points. The median score rose from 112 to 115, while the score range decreased from 190 to 170, indicating greater uniformity in student abilities following the intervention.

Conclusions:

Based on the research findings, long jump activities did not significantly improve the motor skills of first grade students at SD IT Al Kautsar in the 2026 academic year, although the mean score increased after treatment. This may have been influenced by the short treatment duration, limited sample size, developmental stage, and suboptimal training intensity.

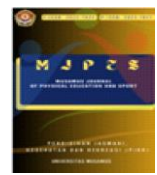
Keywords: long jump game; motor skills; students; quasi experimental; pretest posttest

Introduction

Long jump is one of the oldest athletic events, originating from the Ancient Olympic Games in Greece around 708 BC as part of military agility training. Ancient athletes used additional weights called halteres, weighing approximately 1–4.5 kg, to increase momentum. The modern long jump has been contested since the 1896 Olympic Games, while the women's event was introduced in 1948. The Long History of Long Jump: During the Ancient Olympic era in Greece, long jump was developed to train soldiers' agility in overcoming obstacles such as ditches and ravines. Ancient Greek athletes used halteres (weights), which were swung forward during takeoff and backward during landing to increase jumping distance. In the Modern Olympic era, the long jump was first contested at the 1896 Athens Olympic Games for men. The development of women's competition began with official women's long jump events in 1948. Regarding world records, the men's world record is held by Mike Powell of the United States, with a jump of 8.95 meters in 1991, while the women's world record is held by Galina Chistyakova of the Soviet Union, with a jump of 7.52 meters in 1988.

Long jump is an integral part of the Physical Education, Sports, and Health (PJOK) curriculum at the elementary, junior high, and senior high/vocational high school levels as part of athletics instruction. This material aims to develop fundamental movement skills, including the approach run, takeoff, flight, and landing, as well as physical components such as leg explosive power and affective values such as courage.

For first grade students, learning is still very basic and enjoyable rather than focused on complex athletic techniques. It generally includes basic jumping and landing movements, jumping without an approach run, jumping using one or both feet, jumping over lines or low obstacles, landing on both feet with balance, and simple games involving jumping activities. The learning objectives are to develop coordination and balance, strengthen the leg muscles, introduce basic athletic movements in an enjoyable way, and foster courage and self confidence.



Long jump games are a form of activity involving basic jumping movements using one or both feet. Jumping activities require coordination among leg muscle strength, body balance, flexibility, and children's courage when performing takeoff and landing movements. This activity is highly appropriate for developing the fine motor skills of first grade elementary school students because the movements are simple, easy to understand, and can be modified according to the children's abilities. In addition, long jump games can be conducted in a fun and safe environment when adapted to the conditions and characteristics of the students.

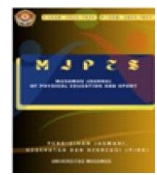
Physical education in elementary schools plays an important role in supporting students' physical development and movement abilities. At the elementary school age, particularly among first grade students at SD IT Al Kautsar, children are still in the stage of developing basic motor skills. Therefore, they require various physical activities that can train and develop their body movement abilities. Gross motor skills such as running, jumping, maintaining balance, and coordinating movements need to be developed from an early age so that children can move effectively and actively participate in learning activities.

Based on observations conducted in the first grade class at SD IT Al Kautsar, the researcher found that the students were participating in sprint running games and frog jump activities. However, during the activities, several students still experienced difficulties in performing the movements properly. Some students were unable to maintain body balance, their movement coordination was still inadequate, and their jumping movements were not performed optimally. These conditions indicate that the gross motor abilities of first grade students at SD IT Al Kautsar still need to be improved.

Insufficient gross motor skills can affect students' learning activities in physical education. If children's basic movement abilities have not developed properly, they may experience greater difficulty participating in various sports and game activities. Therefore, engaging and enjoyable learning activities are needed to encourage students to move actively and increase their motivation to learn. Observations of the first grade students also showed that their interest and motivation to learn in Physical Education were still relatively low. This could be observed from students' behavior during learning activities, such as talking with friends, appearing sleepy, showing little enthusiasm, and demonstrating reluctance to make an effort when completing the tasks assigned by the researcher. In addition, many students expressed difficulties and felt that they were not capable of completing the assigned tasks.

Based on the observation data, approximately 60%, or 15 students, demonstrated low interest in Physical Education learning, while the remaining 40%, or 10 students, tended to play by themselves and were less focused on the learning activities. This condition indicates that the learning process had not fully succeeded in attracting the attention and active participation of first grade students. The problem identified at SD IT Al Kautsar was the students' limited motor abilities in performing long jump activities, resulting in their inability to properly master the required techniques and execution.

Along with developments in the field of education, various teaching methods have emerged as alternatives for addressing current learning problems and contributing to the achievement of educational objectives. However, these learning methods are still rarely implemented in schools because many teachers have limited understanding of the various teaching methods available. Providing sports learning activities that are engaging, practical, and appealing to students is the responsibility of teachers, particularly physical education teachers. Therefore, teachers must be able to adapt their instruction to students' needs and the learning materials being taught. In addition, teachers need to



apply appropriate approaches, models, methods, and strategies according to the subject matter.

One solution that can be implemented is the use of a play based method in long jump learning. Long jump material should not be introduced directly through difficult technical exercises but should begin with simple games involving basic movements such as jumping, running, and maintaining balance. For example, students can participate in games involving jumping over colored lines, jumping into circles, one foot jumping relays, or jumping activities performed according to the teacher's instructions. Through these games, students can perceive Physical Education as an enjoyable activity rather than a boring or intimidating one. Play based methods can also increase students' attention, preventing them from easily becoming distracted by talking, feeling sleepy, or playing by themselves during lessons.

In addition to using games, teachers need to provide basic motor movement exercises gradually and according to the abilities of first grade students. Many students experience difficulties in performing long jump movements because their basic motor skills have not developed adequately. Therefore, training should begin with simple movements, such as single leg balance exercises, walking along a straight line, jumping in place, hopping on one foot, and performing a short 20 meter run. Once students are able to perform these basic movements properly, the teacher can introduce basic long jump techniques without an approach run, such as foot positioning during takeoff, arm swing, and landing techniques. Gradual learning will help students develop greater confidence because they are not immediately given difficult tasks.

Based on the general problems faced by physical education teachers when delivering learning materials, particularly those related to basic long jump movements, the researcher is interested in conducting research among first grade students at SD IT Al Kautsar. Observations were conducted at SD IT Al Kautsar during the 2026 academic year under the title "The Effectiveness of Long Jump Games in Improving the Motor Skills of First Grade Students at SD IT Al Kautsar in the 2026 Academic Year." This problem was identified by the researcher during observations of long jump learning activities at SD IT Al Kautsar.

In the implementation of physical education learning in elementary schools, many teachers still experience difficulties in improving students' motor abilities, particularly among lower grade students. Physical education lessons are often conducted monotonously, lack variation, and do not fully utilize games as the primary learning approach. As a result, students become less enthusiastic, easily bored, and less actively involved in learning activities. This condition negatively affects the optimal development of students' motor abilities. Therefore, innovative learning approaches are needed to increase students' activity and motivation, one of which is the implementation of long jump games.

The development of motor skills is an important element of children's growth at the elementary school level, particularly during the early grades. Gross motor skills such as running, jumping, maintaining balance, and coordinating movements provide a foundation for children to engage in more complex physical activities while also supporting their cognitive and social development. Research has shown that well developed motor skills significantly contribute to students' learning readiness and active participation in school activities.

SD IT Al Kautsar, as an elementary educational institution, plays a vital role in developing students' potential comprehensively, including their physical and motor abilities. Therefore, it is important to conduct research examining the effectiveness of implementing long jump games in improving the motor abilities of first grade students at



SD IT Al Kautsar as an effort to develop physical education learning that is more innovative and appropriate to the characteristics of the students.

Materials and Methods

Study Design

This study employs a quantitative approach using a quasi experimental design specifically, a single group pretest posttest design. This design was selected because the researcher aimed to determine the impact of long jump game activities on changes in students' motor skills before and after the intervention. Quasi experimental designs are frequently used in sports research to observe the effects of interventions within real world school settings.

Study Participants

The population for this study consisted of all 25 first grade students at SD IT AL KAUTSAR. A sample of 25 students was selected using purposive sampling, as only the first grade students participating in physical education classes met the criteria: full attendance, absence of health issues, and possession of parental consent.

Study Organization

A research instrument is a tool used by researchers to obtain data that is accurate and aligned with the research objectives. The instrument used in this study consists of a training program a plan of activities structured systematically, regularly, and progressively to enhance an individual's physical capabilities, movement skills, and performance through a process of repetitive and continuous training.

Statistical Analysis

Data were analyzed using the Kolmogorov Smirnov test to assess data normality and the Paired Sample t Test to determine differences between pretest and posttest gross motor skill scores. A significance level of $\alpha = 0.05$ was used, with Sig. < 0.05 indicating a significant difference. The results were interpreted by comparing the mean pretest and posttest scores to determine the effect of long jump game activities on students' gross motor skills.

Results

The pretest and posttest data regarding the effectiveness of improving the motor skills of Grade 1 students at SD IT Al Kautsar are presented in Table 1 below:

Table 1. Pretest and posttest data results for the long jump

NO	NAME	PRETEST	POSTTEST	DIFFERENCE
1	Adiba	90	93	3
2	absyard	102	135	33
3	Aisyah N	78	68	10
4	Alif	150	160	10
5	Atifah	0	23	23
6	Arsya	130	133	3
7	Dilan	95	115	20
8	Fathir	148	150	2
9	Fathian	123	70	53



10	Fathimah	52	50	2
11	Firli	89	90	1
12	Irfan	190	193	3
13	Jihan	132	123	10
14	Kahfi	90	110	20
15	Mikayla S	105	115	10
16	Muhyi	150	168	18
17	Putri	69	78	9
18	Raisa	121	128	7
19	Rania	170	180	10
20	Raza	80	75	5
21	Sakinah	116	120	4
22	Sheren	97	68	29
23	Syadid	144	150	6
24	Tahfiz	130	133	3
25	Widya	112	115	3

Descriptive statistics for the pretest and posttest regarding the effectiveness of improving the motor skills of Grade 1 students at SD IT Al Kautsar are presented in Table 2 below:

Table 2. Descriptive statistics for the long jump pretest and posttest.

STATISTICS	PRETEST	POSTTEST
N	25	25
Mean	110,532	113,72
Median	112	115
Standard Deviation	39,89	41,87
Minimum	0	23
Makximum	190	193
Range	190	170

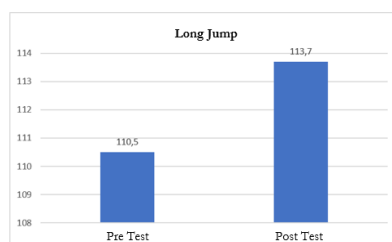


Figure 1: Bar chart of long jump pre test and post test results

Based on the bar chart showing the long jump pre test and post test results, it is evident that there was an improvement in the students' long jump performance following the intervention or training program. The average pre test score was 110.5, whereas the average post test score rose to 113.7, representing an increase of 3.2 points (113.7–110.5). This increase indicates that, after participating in the provided instruction or training, the long jump ability of the Grade 1 students at SD IT Al Kautsar showed greater improvement compared to their performance prior to the intervention.

Discussion

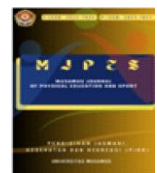
Based on the results of the descriptive statistical analysis, the average jumping ability of the students increased after the treatment was administered. The mean score increased from 110.53 in the pretest to 113.72 in the posttest. In addition, the median also increased from 112 to 115. This improvement indicates a tendency toward better learning outcomes after the students participated in the training or learning program. However, the increase in the mean was relatively small, amounting to only 3.20 points.

In terms of data distribution, the standard deviation was 39.89 in the pretest and 41.87 in the posttest. This indicates that the variation in students' abilities in the two measurements was relatively similar, although the distribution of scores was slightly greater in the posttest. The minimum score increased from 0 to 23, while the maximum score increased from 190 to 193. In addition, the range decreased from 190 to 170, indicating that the variation in students' learning outcomes became smaller after the treatment, suggesting that their abilities tended to be more evenly distributed than before the treatment.

Before testing the hypothesis, prerequisite tests consisting of homogeneity and normality tests were conducted. The results of the homogeneity test using Levene's Test showed a significance value of 0.711, which was greater than 0.05. Therefore, it can be concluded that the variances of the pretest and posttest data were homogeneous, satisfying one of the requirements for the use of parametric statistical tests.

Furthermore, the results of the normality test using the Shapiro Wilk test showed significance values of 0.689 for the pretest and 0.958 for the posttest. Both values were greater than 0.05, indicating that the data were normally distributed. Since the assumptions of homogeneity and normality were met, the analysis was continued using the Paired Samples t Test.

The results of the Paired Samples t Test showed a Sig. (2 tailed) value of 0.354, which was greater than the significance level of 0.05. Therefore, H_0 was accepted and H_a was rejected, indicating that there was no statistically significant difference between the pretest and posttest results. Although the descriptive analysis showed an increase in the mean score after the treatment, the increase was not large enough to be considered statistically significant.



Overall, this study showed that although there was an improvement in jumping performance after the treatment, the improvement was not statistically significant. Therefore, the research hypothesis stating that the treatment had an effect on improving students' jumping ability was not supported by the results of the analysis.

Conclusions

Based on the research findings regarding the effectiveness of long jump activities in improving the motor skills of first grade students at SD IT Al Kautsar in the 2026 academic year, it can be concluded that although there was no statistically significant effect, the results showed an increase in the mean score after the treatment. This indicates that long jump activities have the potential to help improve students' motor skills; however, the improvement was not large enough to be statistically significant. These results may have been influenced by several factors, including the relatively short treatment duration, limited sample size, the characteristics of first grade students who are still at the stage of basic motor development, and the suboptimal training intensity.

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Conflict of Interest

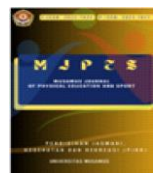
The authors declare no conflict of interest.

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